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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/635,280	08/09/2000	RAINER H. WISCHINSKI	SAA-34-2	4936

23569 7590 05/14/2004

SQUARE D COMPANY
INTELLECTUAL PROPERTY DEPARTMENT
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PALATINE, IL 60067

EXAMINER

LAZARO, DAVID R

ART UNIT	PAPER NUMBER
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2155

DATE MAILED: 05/14/2004

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/635,280

Applicant(s)

WISCHINSKI, RAINER H.

Examiner

David Lazaro

Art Unit

2155

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 August 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is in response to the RCE and the Amendment filed 03/15/04 (Papers #7 and #8).
2. Claims 1, 3, 12, 14-18 and 21-23 were amended.
3. Claims 1-23 are pending.
4. The 35 USC 112 1st paragraph enablement rejection of Claims 1-23 is withdrawn.

Drawings

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "10" has been used to designate both "factory automation device" (Fig. 1) and "PLC" (Fig. 2-4). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1, 12, 17 and 21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application

was filed, had possession of the claimed invention. Although the applicant does state different embodiments could be applied, the specification does not describe an "application program request message being responsive to a network address associated with the automation device" (from Claim 1). The specification does describe a BOOTP or DHCP request for obtaining an address on the network (Page 6 lines 1-7 of Specification), but there is no reference made for an application program request message being responsive to the network address of the automation device or being responsive to the message for requesting the network address for the automation device. The specification consistently describes an application program being selected in response to a message requesting an application program. However, none of these descriptions indicated the program request message being responsive to an associated address or an address request message. Furthermore, none of the descriptions of the network address request or the associated network address indicate effecting a response from the program request message.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1, 2, 4-7, 12, 13, 15, 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,263,487 by Stripf et al. (Stripf) in view of U.S. Patent 5,974,547 by Klimenko (Klimenko).

10. With respect to Claim 1, Stripf teaches a control system (Col. 2 lines 65-67) comprising an automation device operably connected to a network (Col. 2 lines 3-9), a network device operably connected to the network (Col. 2 lines 3-9), and an application program stored in the network device (Col. 3 lines 4-7), wherein the application program controls the automation device (Col. 3 lines 57-59), and wherein the application program is selected in response to an application program request received at the network device and sent from the automation device (Col. 3 lines 13-22). Stripf does not explicitly disclose the application program request message being responsive to a network address associated with the automation device. However, Klimenko teaches a program request message is further responsive to a network address associated with the automation device (Col. 10 lines 50-65). It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the system disclosed by Stripf and modify it as indicated by Klimenko such that the system further comprises the application program request message being responsive to a network address associated with the automation device. One would be motivated to have this as it provides effective administration and significant administrative cost-savings (Col. 3 lines 40-46 of Klimenko).

11. With respect to Claim 2, Stripf in view of Klimenko teaches all the limitations of Claim 1 and further teaches the application program comprises an executive code and a user code (Col. 2 lines 47-50 and Col. 4 lines 6-9 of Stripf).
12. With respect to Claim 4, Stripf in view of Klimenko teaches all the limitations of Claim 1 and further teaches the automation device is a programmable logic controller (See Fig. 1 of Stripf).
13. With respect to Claim 5, Stripf in view of Klimenko teaches all the limitations of Claim 1 and further teaches the network device is a server (See Fig. 1 of Stripf).
14. With respect to Claim 6, Stripf in view of Klimenko teaches all the limitations of Claim 5 and further teaches the server has a TCP/IP protocol (Col. 2 lines 7-9 of Stripf).
15. With respect to Claim 7, Stripf in view of Klimenko teaches all the limitations of Claim 1 and further teaches the network is Internet (Col. 1 lines 65-67 of Stripf).
16. With respect to Claim 12, Stripf teaches a method of operating a control system on a network (Col. 2 lines 65-67) comprising the steps of: providing a network device for storing an application program to be executed on an automation device (Col. 3 lines 4-7), it is inherent in Stripf that a message for requesting a network address from the automation device is transmitted (Col. 2 lines 3-9), transmitting a message for requesting an application program for the automation device (Col. 3 lines 10-22); selecting the application program in response to the message for requesting the application program (Col. 3 lines 10-22); transmitting an application program to the automation device (Col. 3 lines 15-18), and installing the application program on the automation device (Col. 3 lines 57-59). Stripf does not explicitly disclose the message

for requesting an application program being responsive to the message for requesting the network address. However, Klimenko teaches a program request message is responsive to the message for requesting the network address (Col. 10 lines 50-65). It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the method disclosed by Stripf and modify it as indicated by Klimenko such that the method further comprises the message for requesting an application program being responsive to the message for requesting the network address. One would be motivated to have this as it provides effective administration and significant administrative cost-savings (Col. 3 lines 40-46 of Klimenko).

17. With respect to Claim 13, Stripf in view of Klimenko teaches all the limitations of Claim 12 and further teaches the step of executing the application program on the automation device (Col. 3 lines 57-59 of Stripf).

18. With respect to Claim 15, Stripf in view of Klimenko teaches all the limitations of Claim 12 and further teaches an executive program code for the automation device and a user program code for the automation device (Col. 2 lines 47-51, Col. 4 lines 6-9 of Stripf), the user program is selected in response to the message requesting the application program (Col. 3 lines 10-22 and Col. 2 lines 47-51).

19. With respect to Claim 17, Stripf teaches a network control system (Col. 2 lines 65-67) comprising means for operably connecting a network device to the network control system (Col. 2 lines 3-9), the network device stores an application program for controlling an automation device (Col. 3 lines 4-7), means for transmitting a message requesting the a network address (Col. 2 lines 3-9), means for transmitting a message

for requesting an application program for the automation device (Col. 3 lines 10-22); means for selecting the application program in response to the message for requesting the application program (Col. 3 lines 10-22) means for selecting the application program in response to a message (Col. 3 lines 13-18), means for transmitting the application program to the automation device (Col. 3 lines 13-18), and means for installing the application program (Col. 3 lines 57-59). Stripf does not explicitly disclose the message for requesting an application program being responsive to the message for requesting the network address. However, Klimenko teaches a program request message is responsive to the message for requesting the network address (Col. 10 lines 50-65). It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the system disclosed by Stripf and modify it as indicated by Klimenko such that the method further comprises the message for requesting an application program being responsive to the message for requesting the network address. One would be motivated to have this as it provides effective administration and significant administrative cost-savings (Col. 3 lines 40-46 of Klimenko).

20. With respect to Claim 18, Stripf in view of Klimenko teaches all the limitations of Claim 17 and further teaches the means for selecting comprises means for customizing the application program to meet the minimum requirements for executing the application program in response for the application program (Col. 3 lines 15-18 and Col. 4 lines 17-20 of Stripf).

21. With respect to Claim 19, Stripf in view of Klimenko teaches all the limitations of Claim 17 and further teaches the automation device is a controller (See Fig.1 ref#6 of Stripf).

22. With respect to Claim 20, Stripf in view of Klimenko teaches all the limitations of Claim 17 and further teaches the network device is a server (See Fig. 1 of Stripf).

23. With respect to Claim 21, Stripf teaches a method of operating a network control system on a network (Col. 2 lines 65-67) comprising the steps of providing a network device for storing an application program to be executed on an automation device (Col. 3 lines 4-7), requesting a network address for the automation device (Col. 2 lines 3-9), requesting the application program (Col. 3 lines 10-22); selecting an application program in response to a message (Col. 3 lines 13-15), transmitting the application program to the automation device (Col. 3 lines 15-18), and installing the application program on the automation device (Col. 3 lines 57-59). Stripf does not explicitly disclose requesting the application program in response to the network address and selecting the application program in response to the request for the network address. However, Klimenko teaches requesting a program in response to the network address and that the program is selected in response to the request for the network address (Col. 10 lines 50-65). It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the system disclosed by Stripf and modify it as indicated by Klimenko such that the method further comprises requesting the application program in response to the network address; and selecting the application program in response to the request for the network address. One would be motivated

to have this as it provides effective administration and significant administrative cost-savings (Col. 3 lines 40-46 of Klimenko).

24. With respect to Claim 22, Stripf in view of Klimenko teaches all the limitations of Claim 21 and further teaches the selecting the application program includes customizing the application program to meet the minimum requirements for executing the application program seletec (Col. 3 lines 15-18 and Col. 4 lines 17-20 of Stripf).

25. With respect to Claim 23, Stripf in view of Klimenko teaches all the limitations of Claim 22 and further teaches the customizing the application program comprises: selecting a user code for the application program (Col. 3 lines 15-18 and Col. 4 lines 17-20 of Stripf) and selecting an executive code for the application program (Col. 3 lines 15-18 and Col. 4 lines 17-20 of Stripf).

26. Claims 3, 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stripf in view of Klimenko as applied to claim 1 above, and further in view of "A Customizable Library to support Software Synthesis for Embedded Applications and Micro-Kernel Systems" by Ditze.

27. With respect to Claim 3, Stripf in view of Klimenko teaches all the limitations of Claim 1 and further teaches the user code is selected in response to the network address of the automation device (Col. 4 lines 17-20 of Stripf and Col. 10 lines 50-65 of Klimenko) but does not explicitly disclose the executive code being selected based on the user code. Ditze teaches the executive code can be selected based on the user code (Page 90, section 3.2). It would have been obvious to one of ordinary skill in the

art at the time the invention was made to take the system disclosed by Stripf in view of Klimenko and modify it as indicated by Ditzte such that the system further comprises the executive code is selected in response to the user code selected. One would be motivated to have to this as it would optimize the application program by helping to eliminate run-time and memory overhead (Page 90, section 3.2 first paragraph).

28. With respect to Claim 14, Stripf in view of Klimenko teaches all the limitations of Claim 12 and further teaches the step of selecting an application program in response to the request for the application program comprises the steps of: identifying the message for request the application program (Col. 3 lines 10-22); and selecting a user application program in response to the message requesting the application program (Col. 3 lines 10-22 and Col. 2 lines 47-51), but does not explicitly disclose selecting an executive program in response to the user application program selected. Ditzte teaches the executive code can be selected based on the user code (Page 90, section 3.2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the method disclosed by Stripf in view of Klimenko and modify it as indicated by Ditzte such that the method further comprises selecting an executive program in response to the user application program selected. One would be motivated to have to this as it would optimize the application program by helping to eliminate run-time and memory overhead (Page 90, section 3.2 first paragraph).

29. With respect to Claim 16, Stripf in view of Klimenko teaches all the limitations of Claim 15 but does not teach the executive code is customized in response to the message requesting the application program. Ditzte teaches the executive program

code is customized to meet the minimum requirements for executing the application program (Page 90, section 3.2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the method disclosed by Stripf in view of Klimenko and modify it as indicated by Ditzel such that the executive program code is customized in response to the message requesting the application program to meet the minimum requirements for executing the application program. One would be motivated to have to this as it would optimize the application program by helping to eliminate run-time and memory overhead (Page 90, section 3.2 first paragraph).

30. Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stripf in view of Klimenko as applied to claim 1 above, and further in view of U.S. Patent 6,055,632 Deegan et al. (Deegan).

31. With respect to Claim 8, Stripf in view of Klimenko does not teach the network is Ethernet. Deegan teaches the use of an Ethernet network for downloading software to programmable controllers. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the control system as disclosed by Stripf in view of Klimenko use an Ethernet network as indicated by Deegan since Ethernet provides high speed (Col. 5 lines 54-55 of Deegan). One would be motivated to have this since software can be upgraded more quickly.

32. With respect to Claim 9, Stripf in view of Klimenko does not teach the network is Profibus. Deegan teaches the use of an Ethernet network for downloading software to programmable controllers. Deegan suggests that other types of networks could be

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used although Ethernet is preferred (Col. 5 lines 54-55). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the control system as disclosed by Stripf in view of Klimenko use a Profibus network as indicated by Deegan. Profibus provides an automation system with protocol based on international standards. One would be motivated to use Profibus since this would allow communications between devices that follow those standards.

33. With respect to Claim 10, Stripf in view of Klimenko does not teach the network is ControlNet. Deegan teaches the use of an Ethernet network for downloading software to programmable controllers. Deegan suggests that other types of networks could be used although Ethernet is preferred (Col. 5 lines 54-55). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the control system as disclosed by Stripf in view of Klimenko use a ControlNet network as indicated by Deegan. ControlNet offers multiple controllers controlling I/O on the same link. One would be motivated to have this since other networks only allow one master controller on the link.

34. With respect to Claim 11, Stripf in view of Klimenko does not teach the network is Modbus+. Deegan suggests that other types of networks could be used although Ethernet is preferred (Col. 5 lines 54-55). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the control system as disclosed by Stripf in view of Klimenko use a Modbus+ network as indicated by Deegan. Modbus+ is a standard protocol in the automation industry. One would be motivated to use Modbus+ since many industry supplies implement Modbus+ protocol.

Response to Arguments

35. Applicant's arguments filed 03/14/04 have been fully considered but they are not persuasive.

36. Applicant argues – *"Klimenko is directed to an apparatus for booting an operating system (OS) to a computer, e.g., PC, on a network. Klimenko involves a field of art nonanalogous to that of Stripf et al."*

a. Klimenko is analogous to Stripf for a number of reasons. Applicant states that Klimenko is directed towards an apparatus to be used in conjunction with a computer on a network. Stripf also involves the use of an apparatus to be used in conjunction with a computer on a network (See Fig. 1 and Col. 3 lines 4-21 of Stripf). Klimenko is logically extended for administration of limited memory devices that are located on a network (Col. 3 lines 39-46 of Klimenko). This is analogous to the administration of programmable logic controllers of Stripf. Klimenko also involves the use of BootP and DHCP protocols (Col. 9 line 56 – Col. 10 line 67) of which the Applicant has already associated with the field of art involving factory automation devices such as a PLC (See Page 6 lines 1-5 of Specification). Furthermore, Applicant has only made a conclusive statement as to Klimenko being nonanalogous and does not provide specific evidence to support this conclusion.

37. Applicant argues – *“There is no reason, suggestion, or motivation within either reference to combine or modify the teaching of either reference in view of the other. Thus combination of the Stripf and Klimenko is improper...Moreover, there is no expectation of success if the references were in fact combined...The Examiner is required to provide evidence that is clear and particular as to why one skill in the art would combine the references in the manner suggested.”*

b. Stripf teaches an automation device and a network device with a application program for controlling the automation device being part of a universal management engineering system for use in a globally distributed automation network (Col. 1 lines 43-51 of Stripf) which could be considered a large networked enterprise. The automation devices can be programmed over the network and Klimenko is used to teach program selection being responsive to an associated network address. Klimenko states the technique taught by Klimenko “should find widespread use in implementing effective centralized client administration in, e.g. large networked enterprises” (Col. 3 lines 40-46). Klimenko further states the technique would provide “significant administrative cost savings” (Col. 3 lines 40-46). Therefore, Klimenko provides sufficient motivation for the combination of Stripf and Klimenko.

38. Applicant Argues – *“Klimenko still fails to disclose an application program for controlling an automation device being provided by a network device wherein the*

application program is selected in response to a request message further responsive to a network address associated with the automation device."

c. Klimenko is not used to teach this as stated. Stripf teaches an application program for controlling an automation device being provided by a network device and further having a request for the application program (Col. 3 lines 4-21).

While it is inherent that an IP address is given to the automation device of Stripf due to the TCP/IP communications between devices, Stripf does not specifically disclose how the automation device originally acquires its network address and therefore does not explicitly disclose a message for requesting an application program being responsive to a network address associated with the automation device. Klimenko teaches the use of BootP or DHCP for requesting/acquiring a network address. Klimenko shows that BootP replies with an IP address (Col. 10 lines 57-61) and an indication of a program that needs to be downloaded (Col. 10 line 61 – Col. 11 line 8) such that the device can execute the program. The device receiving this reply will then request this program, said request being responsive to the network address associated with the automation device.

Therefore, Klimenko teaches a technique where a program is selected in response to a request message which is further responsive to a network address associated with the automation device.

39. Applicant argues – *"Ditze also involves art nonanalogous to Stripf et al. and the Applicant's claimed invention."*

d. Ditze describes customization of the code of embedded application programs. This is analogous to both Strip and the Applicant's invention as embedded application programs are directly related to the automation devices/PLCs of both Strip and the Applicant's invention. The customization of the code is also further analogous to Applicant's invention since both Ditze and the applicant describe programs customization of code based on a particular function (Applicant's Specification, Page 4, lines 20-27) (Ditze, Page 88, Introduction). Furthermore, Applicant has only made a conclusive statement as to Ditze being nonanalogous and does not provide specific evidence to support this conclusion.

Conclusion

40. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

41. U.S. Patent 5,805,442 by Crater et al. "Distributed interface architecture for programmable industrial control systems" September 8, 1998. Discloses remote monitoring of programmable control system through web interface.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Lazaro whose telephone number is 703-305-4868. The examiner can normally be reached on 8:30-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on 703-308-6662. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


David Lazaro
May 12, 2004


HOSAIN ALAM
SUPERVISORY PATENT EXAMINER